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Winter 2008

CEG 790-01: Introduction to Scientific Visualization

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**Welcome to****CEG790 - Introduction to Scientific Visualization**

Instructor: Dr. Thomas Wischgoll

thomas.wischgoll@wright.edu

485 Joshi Research Center
937-775-5057

Office Hours: Mon/Wed 05:30pm - 06:30pm
(or by appointment)

Textbook: The Visualization Toolkit
An Object-Oriented Approach To 3D Graphics
Will Schroeder, Ken Martin, Bill Lorensen
3rd edition
ISBN 1-930934-12-2

Webpage: <http://avida.cs.wright.edu/courses/CEG790/>

Lecture: Mon 04:10 pm - 05:25 pm
Wed 04:10 pm - 05:25 pm
(RC 155)

Exams: Midterm: Mon, Feb 27th, 8:00 pm (in class)
Final project: due Wed, Mar 19th, 11:59 pm

Grading Policy: 30% (assignments) + 30% (midterm) + 40% (final project)= 100%

Each class is different. Therefore, no absolute grading scheme can be defined in advance. However, the following guarantees will always be made:

90%	80%	70%	60%	50%
A	B	C	D	F

Course Goals/Objectives

By the end of this quarter, you will be familiar with fundamental techniques used for visualizing scientific data sets. You will be introduced to a visualization toolkit (vtk) and methods suitable for medical data sets, vector data sets, and more general data sets.

The outline of the course is as follows:

- Introduction
- The visualization pipeline
- Basic data representations
- Fundamental algorithms
- Advanced computer graphics
- Advanced data representations
- Advanced algorithms

Prerequisites

- CEG476

If you are unsure about any of these requirements, come talk to me.

Course Format

The course consists of two lectures a week. Attendance of the lectures is not strictly mandatory. However, you are responsible for all materials, announcements, assignments, *etc.* covered in either the lecture or assignments. If you miss a class, consult a classmate for any missed materials.

The purpose of the class is for everyone to understand the issues involved with computer graphics. To this end, if you don't understand something during class, please ask. If you are confused, it is likely that a few of your classmates are as well. Also, listen to others' questions. Many times you'll think you understand a concept until you hear someone else's question about it. Dialogue is the best way to learn things, so don't be afraid to speak up.

There will be two assignments to be returned on the specified date, one in class midterm, and one final project. The grade will be determined as stated earlier.

Assignments

Two assignments will be given which are due on the following dates:

Assignment 1:	Wed, Jan 9th	due: Wed, Jan 23rd, 11:59 pm
Assignment 2:	Wed, Jan 23rd	due: Wed, Feb 20th, 11:59 pm

For implementing the assignments, you can use the PCs in room 152C RC. You can also use any other computer that is available to you. However, you need to be able to demonstrate your

software on one of the computers within Russ Engineering Center. On the day the assignment is due, please turn in a screenshot of your software and your source code, including makefiles or project files.

Office Hours

Office hours are as listed above **or by appointment**. If you are unable to come to the posted office hours, contact me and we can arrange to meet. There is no reason why anyone should be unable to see me if they need to.

Other Resources

The class web page is maintained at <http://avida.cs.wright.edu/courses/CEG790/>. It will keep information, assignments, announcements, etc. There is also a class mailing list. Make sure your email address is registered with the registration system. Please check the web page and read your email. I will try to make any announcements in both places as well as in class, but you don't want to miss anything.

Class Policy

- Assignments will not be accepted late unless approved by the instructor.
- The solution for the assignment has to be turned in as executable and source code to receive full credit. The solution has to work on one of the computers in the Russ Engineering Center receive full credit.
- During the midterm, after completing the test, each student must sign his test solution in with the instructor.

Fine Print

Exams Exams will emphasize insight and problem solving ability rather than memorization. Exams will be closed notes, closed book, and no laptops or calculators.

Missed Exams Makeup exams will only be given for the gravest of reasons. If you must miss an exam due to extreme illness, *etc.*, contact the instructor (email is fine) or leave a message with the Department of Computer Science and Engineering office (937-775-5131) *before* the exam. Be sure to leave both the reasons for missing the exam and how to reach you.

Add/drop Policy A copy of the add/drop policy is available at the main office or [online](#).

Cheating Please do not. I am not obsessed with looking for cheating, but if I see something suspicious, I will refer it to the Office of Judicial Affairs. This is more work for me, and is embarrassing for everyone. Again, please don't; this has been a problem in the past. If the rules are unclear or you are unsure of how they apply, ask the instructor *beforehand*. The academic integrity policy as available [online](#).

Feedback If you like, dislike, or don't understand something I'm doing with the course, please stop by my office hours, send me email, or paste together a note from newspaper clippings and drop it in my mailbox. I won't always change things, but I will always explain why I'm doing them the way I am.

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